

RISKS TO THE FORECASTS

The forecasts in this document are forecasts of aviation demand, driven by models built on forecasts of economic activity. There are many assumptions in both the economic forecasts and in the FAA models that could impact the degree to which these forecasts are realized. This year's forecast is driven, at least in the short-term, by a number of factors including the strength of the economic recovery and any impact resulting from the U.S. government fiscal situation. Also, as numerous incidents in the past few years (like the attempted bombing of a Northwest airliner on Christmas Day 2009, the discovery of multiple devices on cargo flights out of Europe in October 2010) remind us, terrorism remains among the greatest risks to aviation growth. Any terrorist incident aimed at aviation would have an immediate and significant impact on the demand for aviation services that would be greater than its impact on overall economic activity.

Although oil prices remained high in 2013, there is still considerable uncertainty as to the level of oil prices once the economic recovery is on firmer ground. The FAA's baseline forecast (derived from economic assumptions in IHS Global Insight's 30-Year Focus released during the fourth quarter of 2013) calls for decreases in oil prices until 2015. These are relatively modest, with the price of oil approaching \$92/barrel by 2015 and then gradually increasing thereafter, approaching \$139/barrel by the end of the forecast period in 2034. Some forecasters are calling for a much sharper increase in the price of oil. The U.S. Energy Information Administration (EIA) in its 2014 Annual Energy Outlook projects oil prices to remain between \$90 and \$100/barrel through 2018 and then rising steadily over the next 16 years, approaching \$185 per barrel in 2034. While lower oil prices give consumers an impetus for additional spending, including air travel, and enhance industry profitability, higher oil prices could lead to further shifts in consumer expenditures away from aviation, dampening a recovery in air transport demand. Furthermore, while the industry has demonstrated its ability to generate sustained profits at \$100/bbl oil, a \$20/bbl increase in the price of oil would eliminate the industry's \$9.5 billion net profit in FY 2013. Over the long run higher oil prices will put increasing pressure on airline costs, delay balance sheet improvements and discourage expansion plans or orders for new aircraft as carriers focus on maintaining and increasing cash balances.

The baseline forecast assumes that global economic growth will accelerate, over the next few years, but weakness in certain areas may threaten the strength and sustainability of the expansion. The baseline forecast assumes that growth in the emerging market economies will be significantly higher than in the other large economies, in particular the U.S., Japan and the European Union. While economic growth appears to be picking up in the U.S., there are concerns about the strength of demand in Japan and in the European Union as these areas continue to be constrained by structural economic problems and institutional constraints. In addition, many countries in the European Union are still grappling with the impacts of fiscal austerity policies, aimed at reducing government spending and debt, implemented during the past three years which have prolonged the regional downturn. Furthermore the steps that were taken to resuscitate the global economy may prove to be excessive, since the resulting

surge in liquidity growth may cause asset bubbles and exacerbate existing global imbalances. The current forecasts assume strong passenger growth for travel between the United States and other world regions. Any slowing of worldwide economic activity could seriously inhibit the growth in global passenger demand.

With the merger of American Airlines and US Airways completed, the outlook for further consolidation via mergers and acquisitions (M&A) appears to be rather limited. Based on FY 2013 data, the Big 3 (American, Delta, and United) plus Southwest accounted for almost 77% of the U.S. airline industry capacity and traffic. Of the network carriers, only Alaska remains independent, although it does have code share agreements with both American and Delta. In the low cost carrier sector, the merger between Southwest and AirTran is progressing at a steady pace as the carriers are on track to have full integration of the fleet and a single ticketing system by the end of 2014. Aside from Southwest and AirTran, there appears to be little scope for further consolidation as there are significant obstacles. In particular the financial situation of many low cost carriers limits the possibilities of additional merger activity. For many low cost carriers, the sheer size of merger transactions or the amount of financial risk associated with a merger makes further merger activity unlikely. However, U.S. airlines are continuing to explore other options including global alliances. Many of the major carriers in the U.S. are members of global alliances that operate with some measure of anti-trust immunity from the U.S. DOT. While anti-trust immunity may provide flexibility for airline operators across borders, it may create an anti-competitive environment in the marketplace. These market consolidating vehicles, particularly the anti-trust immunity provisions, may invite increased regulatory scrutiny. If such oversights are launched in the future, this will complicate the evolving structure of the airline industry and may impact demand via new regulations.

The forecast assumes the addition of sizable numbers of large regional jets (70 to 90 seats) into the fleet of regional carriers. However, the regional carriers' future is closely linked to those of the larger network carriers. As demand continues to slowly recover, financial pressures on regional operators have increased. Furthermore, as consolidation has occurred among the network carriers, many regional carriers have found themselves either saddled with excess capacity or lack of sufficient capacity, or lack of feed traffic. The network carriers continue to make adjustments to the size and breadth of their networks, without providing opportunities for regional carriers to backfill the loss of the mainline service. Delta is well along in its plans to reduce its small (read 50 seat) regional jet fleet and United and the new American Airways have indicated that they will also be moving ahead with plans to bring down the number of 50 seat regional jets flown by their regional partners. While these actions may provide some opportunities for well positioned regional carriers, the overall impact of consolidation so far has been to reduce opportunities for regional flying substantially.

After suffering through a significant downturn in 2009, business and corporate aviation have seen a partial recovery during the past four years. The pace of the recovery in business and corporate aviation is largely based upon the future prospects of economic growth and corporate profits. Future uncertainty in these leading indicators could pose a risk to the forecast, but the risk is not limited to these factors. Public perception of business and corporate aviation, potential environmental regulations and taxes, along with increased security measures placed on business jets, will place downward pressure on the forecast. On the other hand, while corporate profits are currently high, perceived economic and political uncertainties are causing companies to postpone their purchase of new business aircraft. Translation of this

pent-up demand into sales of business jets in the near future can create an upward impact on the forecast.

Other factors, such as new and more efficient product offerings and increased competition from new entrant manufacturers, serve to broaden the potential of the industry. Estimates show that a record number of new business jets are delivered overseas and, with the potential easing of regulations on the use of airspace in foreign countries, the scenario for business jet manufacturers looks all the more promising. Raising the level of security restrictions, and the subsequent travel hassles placed on airline passengers, could make corporate jet travel look increasingly appealing.

Not only is the volume of aircraft operating at most large hubs expected to increase over the next 20 years, but the mix of aircraft is changing for this same period. The expected increases in the numbers of regional jets and business jets will increase the impact on the national airspace system and make the FAA's job more challenging. This change in the mix of aircraft will impact workload strictly due to the increasing demand for aviation services projected over the forecast period.

Although overall activity at FAA and contract towers fell in 2013, activity at a number of the largest airports increased in 2013 and delays remained at historically high levels at many U.S. airports. As demand recovers and workload increases, congestion and delays could become a critical limit to growth over the forecast period. FAA's forecasts of both demand and operations are unconstrained in that they assume that there will be sufficient infrastructure to handle the projected levels of activity. Should the infrastructure be inadequate and result in even more congestion and delays, it is likely that the forecasts of both demand and operations would not be achieved.

There are concerns that aviation's impact on the environment could potentially restrict the ability of the aviation sector to grow to meet national economic and mobility needs. Airport expansion or new construction is often a contentious issue because of noise, air quality, and water quality concerns. There is also an ongoing effort to address the climate impacts of aviation. Aviation currently accounts for 2 to 3 percent of global carbon emissions, but this percentage is expected to increase with the growth in operations unless mitigated with new technology, renewable fuels, operational improvements and market based measures. While certain measures to address climate impacts can result in reduced costs, such as increased fuel efficiency, other measures, such as market instruments could pose additional constraints on growth. Energy concerns are also rising, driven by spikes in fuel prices, supply and security issues, and concerns about fossil fuel emissions contributing to global climate change. Lack of progress in improving the environmental and energy outlook for the future fleet may result in more restrictions via standards or operating limitations on the fleet in service which in turn may depress growth. By contrast, breakthroughs in quieter, cleaner aircraft technologies and renewable fuels could reduce environmental and energy constraints on the forecast, and enable sustainable growth.